

THE SUPPRESSION OF DISSENT IN SCIENCE

The science establishment tends to react to conflicting and inconvenient theories by denigrating, harassing, rejecting, or ignoring the scientists who propose them.

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In the "Archaeological Cover-ups" article last issue, we examined some of the ways in which science is suppressing anomalies, "heretical" researchers and dissent. Here we continue the investigations while opening up some new areas. Brian Martin of the University of Wollongong, NSW, Australia, has done extensive research into the way science as an institution actually operates, separating the facts of how it works from the myths of how it is supposed to work.

If there are strong interests behind a particular position or theory, then the task of challengers is difficult. This difficulty is aggravated if challengers are outsiders who don't "play the game". If you are a talented scientist with a good track record, working at an elite institution, and write a conventional-looking paper—but with challenging ideas—there may be difficulties enough. For anyone else, it is much tougher.

(Habitat Australia, no. 7, 1992)

We can picture the way science works as a complicated filtering process. The walls and halls of academia and science go hand in hand. No matter how brilliant you are, if you lack a degree in science you are not going to get to the next filter. It helps to have the right degree from the right (meaning prestigious) institution. If you have these qualifications, you will find that writing papers is part of the territory of being a successful scholar or researcher. You will know how to "play the game" at this point.

The next filter is the peer review process. Your papers will be examined by a jury of peers and probably be published if they conform to the accepted theories, and probably wind up rejected if not. However, just because you have all the right stuff is no guarantee that any novel, challenging, boat-rocking theory hurled at the ivory towers of the establishment, regardless of how brilliant, is going to be accepted—as we shall soon see.

HERETICS AND TABOO RESEARCH

In 1994, the BBC ran a series called *Heretics*, which documented how the scientific community has responded to ideas considered unacceptable. The "unacceptable" ideas ranged from the efficacy of high doses of vitamin C to the existence of antigravity and psychokinesis (PK). Some of the scientists who proffered these "wild" ideas had solid credentials—scientists like Linus Pauling and Robert Jahn. In each case, a familiar pattern unfolded. The claims were dismissed out of hand and branded as "nonsense" or "impossible", without any serious attempt being made to look at the evidence or to listen to their proponents' arguments. The series went much deeper by exposing the high degree of insularity and the strong sense of self-superiority that exists within the scientific community.

The case of Robert Jahn, an expert in rocket engineering, was presented. At the time, Jahn was Dean of the Faculty of Engineering at Princeton University. In addition to carrying out his normal responsibilities and areas of research, he became interested in PK after a student asked if he could study the possible effects of the mind on electronic circuits. Jahn thought the experiment harmless and did not anticipate any positive results. However, the test *did* produce positive findings. Jahn set up another experiment to see if those results could be duplicated—and, to his surprise, they were. The university forbade him to talk about these experiments. However, Jahn went on with this line of investigation—as we'd expect of a real scientist driven by curiosity. He eventually published some of his findings, which upset a number of colleagues.

Jahn was criticised in an article written by Nobel Laureate Philip Anderson that

appeared in *Physics Today* (no. 12, 1990). This brought on a firestorm of controversy that had more to do with the "taboo" nature of Jahn's work than with any discussion of the validity of his methods. Another Nobel Prize winner, Steve Weinberg, weighed in during an interview on the *Heretics* program. Weinberg seemed more concerned with the impact Jahn's experiments would have on the accepted theories of physics than with any facts that the PK research had turned up, and the subject alone was enough to condemn the work in Weinberg's estimation.

This fiasco earned Jahn, a respected scientist holding down a prestigious post at a leading American university, the badge of "heretic". We saw a similar knee-jerk reaction when dissidents brought the hallowed "theory of evolution" under close scrutiny.

The public has to start becoming more aware that scientists are human beings with egos and self-interest at stake—two realities that can and do interfere with the prosecution of "pure" science. This can produce an arrogant attitude in scientists who suddenly think they know what is best and what is true by virtue of the fact that they are scientists, and because of that status they would never deviate from practising good science. The logic is obviously circular and is also found among church ministers when it comes to morality. Our scientists often act like ministers of objective reality.

WHISTLEBLOWERS AND RENEGADES

In 1999, Arpad Pusztai was fired from the Rowett Institute in Aberdeen, Scotland, for calling public attention to the conclusions of a research report critical of genetically modified food, which the government had quietly quashed. Pusztai had previously been suspended over his research findings that showed rats fed GM potatoes had suffered immune system damage. That was not the conclusion that the British government was then looking for. His "incorrect" science and honesty cost him his job on the project.

As we saw with the case of science journalist Richard Milton, the science establishment plays hardball. Not only was Pusztai fired, but his reputation was tarnished when the press reported that "his conclusions and the research were later said to be unfounded". The beleaguered scientist closed his side of a case that was prosecuted entirely in the court of public media disclosure, arguing:

I am not against genetic engineering; I only ask for proper tests to be carried out before and not after GM food is released.

(*Guardian Weekly*, February 12, 1999)

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Whistleblowing is often the only way the public is ever informed of wrongdoing in the field of science. It is clearly the right thing to do; however, it can lead to many personal trials, the loss of friends and rejection by colleagues.

History is full of examples of scientists and independent researchers who have been harassed, badgered, ridiculed, threatened and called every name in the book for delving into or proposing radical new ideas.

Immanuel Velikovsky was a well-educated, licensed medical doctor who became fascinated with the

information he found in ancient myths that seemed to agree there had once been a great catastrophe that had a devastating impact on early civilisations. He had a hard time finding a publisher for his first book, *Worlds in Collision*. When Macmillan finally decided to publish it, outraged scholars and scientists contacted the publisher, demanding that the book be dropped immediately. Macmillan caved in and transferred it to Doubleday because the aggrieved parties were the very people who bought their textbooks. This happened in 1950 and it was a sign of things to come, for it would not be the last time that scientists sought to ban a book.

Velikovsky's theory was a source of bitter contention in academic circles for decades, until—lo and behold!—Alvarez announced in the 1980s that an asteroid had killed off most life on the planet 65 million years ago. (And that announcement, too, was steeped in controversy, as we will learn.) Today the asteroid theory is widely accepted, although still debated.

But not all independent scientists are the focal point of scorn and derision; some are simply labelled "mavericks" and their work is either ignored or regarded with the same suspicious furrowed brows as a noted crank's would be. However, a few of these individuals simply cannot be shoved into obscurity because their unconventional theories have been proven correct.

The late Scotty MacNeish was a renegade archaeologist who always marched to the beat of his own drum. His career spanned six decades and most of it was steeped in controversy and heated debate. MacNeish is known for tracking down the origin of



corn to central Mexico and he wrote and/or co-authored 50 books and over 200 papers. He was the first archaeologist to bring an interdisciplinary approach to this field. But he is also famous for proposing theories that make other archaeologists and anthropologists shudder.

MacNeish claimed to have solid evidence that the earliest human presence in North America can be dated back 60,000 years, instead of the generally accepted 12,000–20,000 years. He was also critical of what he called "the new archaeology" being practised by investigators who seem to believe they are operating "on a higher plane, dealing with social problems", MacNeish once said in an interview, pointing out that you cannot tell what ancient people thought or believed by looking at potsherds and bones (*Archaeology Today*, no. 5, 1999). It is troubling to read the research papers and reports from many of today's archaeologists who will jump at the chance to explain the "spiritual consciousness" and belief systems of the ancients and ridicule any unorthodox theories that attempt to explain enigmatic artifacts.

Thomas Gold (who died in 2001) was another "maverick" often held just beyond arm's length because of his unconventional research into exotic ideas that no one else has thought of, yet his assertions have usually been proven to be true. He did pioneering work on radar during World War II; came out of the war and published a new

theory on mammalian hearing that was ignored for 30 years; was the first to propose that the Moon's surface was not frozen lava but dust; and discovered the pulsar. One of Gold's controversial theories is based on the idea that most of Earth's biological life is actually beneath the surface and not above it. He also believed that petroleum is not a by-product of biological decay but is a result of geochemical processes within the planet's core. Some biologists and geologists have been deeply offended by these concepts; some actually hate the man.

Gold wrote an article, "New Ideas in Science", that appeared in the *Journal of Scientific Exploration* in 1989 (vol. 3, no. 2). After framing the correct scientific attitude and expressing his concern that science was heading down the wrong path towards a system that stifled discovery, he stated:

I want to discuss this danger and the various tendencies that seem to me to create it, or augment it. I can draw on my own personal experience of 40 years of work on various branches of science and also on many of the great controversies that have occurred over that same period.

Gold went on to cite the virtues of scientific ideals and idealism, and then balanced those against the real world that real scientists (who, in the end, are just people with degrees) live in—a world often characterised by less than idealistic motivations and behaviours. He recited some of his own unfortunate experiences which reveal that merit has little to do with the way modern science is run. This article is well worth reading, and it corroborates Martin's findings about the dangers of the peer review process.

Returning to the issue and points brought up by Brian Martin, sociologist Michael J. Mahoney of Pennsylvania State University, USA, was one of the first to examine how well (or poorly) the peer review process works in evaluating scientific papers. Mahoney sent out copies of one paper to 75 reviewers, but

doctored the results so that in a number of cases the research appeared to support mainstream theories while in other cases it went against them. The results will surprise mainstream scientific apologists, but not those who have proposed "unconventional" ideas. Mahoney found that "when the results ran contrary to the reviewer's theoretical beliefs, the procedures were berated and the manuscript rejected". The opposite scenario occurred when the papers conformed to the reviewer's belief system.

Several extremely important theories have nearly slipped through the cracks because of this bias in the peer review process.

Edwin Krebs, the scientist who discovered what eventually was dubbed the "Krebs cycle", had his papers rejected initially.

Biologist Lyn Margulis, co-author (with James Lovelock) of *The Gaia Hypothesis*, also had her seminal work in endosymbiosis coldly brushed aside. Her theory, which is now completely accepted and part of biology textbooks, initially could not get a hearing by the National Science Foundation. "I was flatly turned down," Margulis says, "and the grants officers added that I should never apply again." (*Boston Globe*, June 22, 1987)

This brings up the issue of funding and how the established system further maintains the status quo. Both MacNeish and Gold made reference to the fact that they had extreme difficulties getting their new theories or projects funded because they were so

controversial. This is not some cloak-and-dagger conspiracy. It is a much subtler and more insidious kind—a silent, invisible, complex system that tries to maintain itself by guaranteeing certain outcomes and filtering out everything else. It is a system that can choke off research into novel ideas and fields, simply by shutting off the funding valve.

SCIENTISTS PLAY HARDBALL

That is the passive side of how new ideas are often suppressed, but, as we have seen, there is a very active, aggressive side that seeks to throttle open intellectual discourse.

Brian Martin wrote an article titled "Intellectual Suppression: why environmental scientists are afraid to speak out", which was published in *Habitat Australia* (no. 7, 1992). He began the piece by posing several scenarios that involved public risk that put the scientist in a dilemma. Should he speak up and inform people and risk his career, or keep quiet? Martin presented the ways in which the voice of truth could be stifled:

But what if the "responsible authorities" have different priorities—or even are responsible for the problem? In these cases, outsiders, such as politicians, the media or environmental organisations, must be alerted... Unfortunately, this scenario is the exception rather than the rule. Most environmental scientists are afraid to take a public stand if it means appearing to challenge powerful corporations, governments or professions...aware of legislation which prohibits them from speaking to the media without permission...and afraid that they might be blocked from promotion.

We may well wonder if this is any way to run the enterprise of science. Martin notes that the suppression of intellectual dissent is most effective when the potential dissenter is left to ponder the possible consequences alone and therefore is likely to keep quiet.

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Obviously, under these circumstances, we cannot know how many cases of suppression actually occur or how many potential whistleblowers never step forward. Martin calls it a "conspiracy of silence".

In the case of Dewey McLean, we see how scientists with competing ideas are ridiculed, threatened and shunned by the proponents of the "winning" theory. McLean's work involved the KT extinctions that wiped out the dinosaurs 65 million years ago. Two theories competed for acceptance in the 1980s. McLean originated one of them, which posited that a series of volcanic eruptions caused a massive greenhouse effect that radically changed the Earth's climate. Nobel physicist Luis Alvarez, who claimed that an asteroid had slammed into the Earth, causing the major climatic change, put forth the other theory. This turned into a fiercely competitive battle when the opposing theories were first presented at a conference in Canada in 1981. It is clear from reading McLean's accounts of the bitter debates that he was taken aback because Alvarez was a Nobel Prize-winning physicist and not a geologist. He wrote:

Unfortunately, brutal politics at that meeting cast the theoreticians into a white-hot crucible of scientific debate in which compromise seemed impossible, in which one theory must die...

McLean has publicly stated that Alvarez took him aside during a coffee break and threatened to destroy his career. This claim seems borne out by this extract from an intimidating letter that Alvarez sent to the National Academy of Sciences in 1984:

So Dewey is now a forgotten person in the field, or when he is remembered it is only for a few good laughs at the cocktail party at the end of the Deweyless meeting... I'm sorry to see you going down the Dewey McLean lane.

Do these tactics sound like science or the machinations of Tony, the mob boss in *The Sopranos*? Luis Alvarez has also been quoted as saying:

There is no democracy in physics. We can't say that some second-rate guy has as much right to an opinion as Fermi.

(Daniel S. Greenberg, *The Politics of Pure Science*, University of Chicago Press, 1967; Dewey McLean's webpage link, "Dinosaur Volcano Greenhouse Extinction")

Really! And these are supposed to be the good guys in the white hats who are going to save us!

We saw how quickly and without conscience evolutionist Richard Dawkins moved to stop the publication of Milton's anti-Darwin article. Being a journalist is how Milton puts bread on the table—but too bad, because science is going to muscle its way forward under the banner of a bizarre kind of self-appointed autocracy, and the "kings" and "queens" sitting on the thrones of national institutes and foundations and their "nobility" (Nobel winners), supported by their professorial minions in the universities, shall hear neither of dissent nor of contrary theory.

Is this too strong a metaphor? Perhaps it is not strong enough.

It is at least deserved, and, in fact, the evidence is much more condemnatory than that. Society does not condone blackballing, threats, intimidation tactics, slander or attempts to abridge free speech. We have seen them all. It is distasteful to admit that Alvarez was correct: science is *not* a truly democratic institution. There is no open, free access or public forum, and it only partially functions on the principle of merit. That is the unvarnished truth. You have to "play the game", and that is a long, involved process of jumping through the right hoops in the right way and keeping your doubts to yourself.

British biologist Warwick Collins went flying headlong into the meat grinder of scientific politics, naïvely proposing that sexual selection was an anomaly of Darwinian theory. He studied under the prestigious Darwinist professor, John Maynard Smith. Collins was invited by eminent geneticist John Thoday to give an expanded version of his paper to an international conference on population genetics. He unwittingly accepted and let Professor Smith review the paper prior to his addressing the conference. In a moment that drips with Shakespearean drama, Professor Smith pulled the rug out from under his *protégé* by taking the floor as Collins was about to deliver his paper. Smith thoroughly denounced the contents of the presentation Collins was about to deliver.

This happened in 1976. Thereafter, the humiliated Collins found it impossible to get a paper published. His last attempt was in 1994; that paper was rejected without any justification. Collins has since dropped out of biology. (See Richard Milton's website, <http://www.alternativescience.com>.)

THE BRAVE NEW WORLD OF BIG SCIENCE

Halton Arp, a scientist with the Max Planck Institute in Germany, captured the confusion and angst of the emerging situation in the title of an essay published in the *Journal of Scientific Exploration* (vol. 14, no. 3, p. 447): "What Has Science Come To?" He

does not mince words:

...what most people accept today as fundamental scientific knowledge is barely distinguishable from what organised religion became some centuries ago. The most damaging aspect of science today is widely promulgated theories that are contradicted by observation and experiment. In both cases, a story is mandated by authority and then defended by educational, economic and sociopolitical agencies.

The obvious point is that science is no longer the impartial, apolitical institution it once was. Big Science is now a bloated, intensely political institution that employs the same strategies and public relations gimmicks as Big Business and Big Government.

Halton Arp sees a more insidious side to it:

...although religion may have borrowed some of the jargon of science, science, more importantly, has adopted the methods of religion.

Big Science is now a bloated, intensely political institution that employs the same strategies and public relations gimmicks as Big Business and Big Government.

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and created what is now known as "tobacco science".

When the ACA pamphlet refers to "The weight of national and international scientific opinion", it is basically referring to the opinion of and radiofrequency exposure guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP).

What is not said, however, is that the ICNIRP guidelines are only based on high-level, short-term animal exposure studies, conducted to determine exposure limits set to avoid immediate hazards to health (such as heating of body tissue, called a "thermal effect") from high-level exposures.

Most importantly, ICNIRP does not examine the possibility of other non-thermal health effects arising from long-term, low-level radiofrequency/microwave exposure, such as from using a mobile phone for years.

As such, it is scientifically irrelevant to the issue. From a PR viewpoint, however, statements like "The weight of national and international scientific opinion" do sound impressive.

In 1995, Dr Ross Adey, one of the world's most respected and senior research scientists, in an email reply to this author commented on "The weight of national and international scientific opinion" by stating:

"The laboratory evidence for non-thermal effects of both ELF [power frequency] and RF/microwave fields now constitutes a major body of scientific literature in peer-reviewed journals. It is my personal view that to continue to ignore this work in the course of standard-setting is irresponsible to the point of being a public scandal." (D. Maisch, "Mobile Phones and their Transmitter Base Stations: the evidence for health hazards" [Senate submission], EMFacts Consultancy, April 1996, page 5)

A precautionary approach

So what we have is an ideological battle between a few voices of reason calling for a precautionary approach to safeguard our children's health, based on sound science, versus the might of the mobile phone industry and their supporters, based on maximising corporate profits.

The outcome of this conflict may not be known for many years, until today's young mobile phone users are well into their adulthood. By then, if the warnings of health hazards prove to be true, irreversible damage to the health and wellbeing of many of these people will have been done.

For every parent who is tempted to allow unrestricted mobile phone use by their children, they need to ask themselves: is it worth the risk?

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Richard Dawkins could just have easily been a cardinal in the pre-Enlightenment Church, and Milton a heretic. There is that lingering smell of dogma and belief in the air that permeates much of the cant of the 21st century scientific priesthood: the moves to censor "unacceptable" doctrines or teachings smack of traditional Church-style politics.

Unfortunately, the so-called watchdog, the mass media, is a lapdog in the case of science. Most reporters seem too overawed by the institution and its more famous players ever to ask any hard questions or conduct any serious investigative reporting.

No documentary exposing the weaknesses of the theory of evolution has ever been aired on British television. Doesn't that seem a bit odd?

For anyone truly serious about what is going on with science, Arp's essay is must-reading. His underlying contention is that science today is "impossibly authoritarian".

In an interview with Thomas Gold, published in the *Washington Post* in November 1999, the reporter noted:

Eight years ago, when Gold was developing his theory, some geologists were so incensed that they petitioned to have the government remove all mention of it from the nation's libraries.

And in our virginal naïvety, we thought scientists were against book-burning and were champions of free, independent thought and expression...

The article continued by pointing out that Gold took it in his stride:

...the scientific world allegedly searching for truth is little more hospitable to it than when Galileo ran afoul of the Inquisition, he says.

Gold was also critical of the peer review process that rose to ascendancy in the latter half of the 20th century.

Journalist Richard Milton, in his rebuttal letter to Auriol Stevens (the London *Times* Higher Education Supplement editor who had spiked his anti-Darwin article), wrote:

I believe that the great strength of science and the scientific method is its openness to debate... Science does not need vigilante scientists to guard the gates against heretics... If this article were about any other subject—finance, politics, the economy—I know that it would be welcome as well-written and thought-provoking, even if its claims were controversial.

But it was not about other subjects; it concerned the "sacred cow" of Darwinism. Milton may have been naïve at that point, but his "education" was just starting. There are many other "taboo" subjects that would not have been published.

The point of this series has not been to tar all scientists with the same brush. There are unquestionably many good, honest, hard-working scientists who are appalled by some of the unsavoury things going on in the name of science. But so many scientists seem to delight in attacking alternative science theory and its practitioners by branding the proceedings "pseudoscience", as if they were White Knights on a Divine Mission to preserve the integrity of science. What integrity? It is time they dropped all their debunking and cleaned up the institution before we get the scientific version of the Inquisition.

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Will Hart is a freelance journalist, book author, nature photographer and documentary filmmaker. He lives and does much of his research in the Lake Tahoe area in the USA, and writes a column titled "The Tahoe Naturalist" for a regional publication. He has produced and directed films about wolves and wild horses.